**RE: a question on mid-80s track unload**

**Brattin, Bill** to: Benson.Bob, Kopylev.Leonid 09/29/2012 11:22 AM

From: "Brattin, Bill" <brattin@srcinc.com>
To:
Cc: DeVoney.Danielle@epamail.epa.gov, Berry.David@epamail.epa.gov, Christensen.Krista@epamail.epa.gov, Bateson.Thomas@epamail.epa.gov, "HILBERTJ@UCMAIL.UC.EDU" <HILBERTJ@UCMAIL.UC.EDU>

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I think it is important to recognize that asbestos levels in air are inherently highly variable.
This is because the concentration that is measured in air depends on a number of variables, including:

1) The concentration in the source material
2) The nature and intensity of the force disturbing the source
3) The proximity of the sampler to the source disturbance
4) The meteorological conditions during sampling (outdoor samples) or the ventilation conditions (indoor samples)

Then, all of these variables are further compounded by Poisson counting variability during sample analysis.
This is not a trivial source of variation, and its impact should not be ignored.
For example, for samples with low counts (e.g., 2 fibers), the expected span between replicate analyses can be as high as 30-fold (!).
Even for samples with higher counts (e.g., 6-10), the expected variability between replicate analyses is still a factor of 3-6.
Then, to top if off, there is also variation between laboratories and analysts.
There is an inherent subjectivity in all microscopic analyses, and different labs yield different results when presented identical samples.
Based on this, it is my opinion that it is not necessary to try to postulate some mechanistic explanation for why values observed in track unload in 1982-85 were somewhat higher than in 1980-1982.
In my experience, this could very easily just be random variation in sampling and/or analysis.
If the heart of the concern is that high levels are not expected 2-3 years after Libby vermiculite was no longer used, I think that residual LA contamination and/or fibers from alternative vermiculite sources could easily result in the levels observed. In any event, the data are the data, and our approach for characterizing concentration vs time reflects the overall weight

of the evidence.

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-----Original Message-----
From: Bob Benson [mailto:Benson.Bob@epamail.epa.gov]
Sent: Friday, September 28, 2012 11:29 PM
To: Leonid Kopylev
Cc: Brattin, Bill; Danielle DeVoney; David Berry; Krista Christensen; Thomas Bateson; HILBERTJ@UCMAIL.UC.EDU
Subject: Re: a question on mid-80s track unload
We can fix the wording later.  Could be fibers from other ores and very low Libby or perhaps someone disturbed the soil in track unload area and a bunch of Libby fibers were released from the subsurface.
-----Leonid Kopylev/DC/USEPA/US wrote: -----
To: Bob Benson/R8/USEPA/US@EPA
From: Leonid Kopylev/DC/USEPA/US
Date: 09/28/2012 07:15AM
Cc: "Bill Brattin" <brattin@srcinc.com>, Danielle DeVoney/DC/USEPA/US@EPA, David Berry/R8/USEPA/US@EPA, HILBERTJ@UCMAIL.UC.EDU, Krista Christensen/DC/USEPA/US@EPA, Thomas Bateson/DC/USEPA/US@EPA
Subject: Re: a question on mid-80s track unload
Bob,
I would think that low post-1908 measurements for indoor trionizing would be consistent with the Libby contamination, as you hypothize, but the track unload which dropped to low values (generally less 0.1 f/cc)  for 1980-1981 and then rose from these low values to single digits and then tens of f/cc from 1982 to 1985 is not consistent with residual Libby asbestos hypothesis.
Leonid

Bob Benson---09/27/2012 10:15:32 PM---I think that the high values after 1980 are in part due to residual Libby Amphibole at the site. Ho
From: Bob Benson/R8/USEPA/US
To: Leonid Kopylev/DC/USEPA/US@EPA
Cc: "Bill Brattin" <brattin@srcinc.com>, Danielle

DeVoney/DC/USEPA/US@EPA, David Berry/R8/USEPA/US@EPA, Krista Christensen/DC/USEPA/US@EPA, Thomas Bateson/DC/USEPA/US@EPA, HILBERTJ@UCMAIL.UC.EDU
Date: 09/27/2012 10:15 PM
Subject: a question on mid-80s track unload and SC

I think that the high values after 1980 are in part due to residual Libby Amphibole at the site. However, I do not have any data that can prove this.
I also think that the fiber counts in the other areas after 1980 are due to some residual Libby Amphibole in the areas. But, again no hard evidence to confirm.
I do not think there is any evidence in the record to provide convincing evidence that the Marysville management actually took steps to clean up the facility after use of Libby ore stopped.
Do others have information to add?
-----Leonid Kopylev/DC/USEPA/US wrote: -----
To: Bob Benson/R8/USEPA/US@EPA
From: Leonid Kopylev/DC/USEPA/US
Date: 09/27/2012 02:59PM
Cc: brattin@srcinc.com, Danielle DeVoney/DC/USEPA/US@EPA, David Berry/R8/USEPA/US@EPA, HILBERTJ@UCMAIL.UC.EDU, Krista Christensen/DC/USEPA/US@EPA, Thomas Bateson/DC/USEPA/US@EPA
Subject: a question on mid-80s track unload and SC
Bob,
I wonder if you have any insight why the Track Unload was consistently high (as high as 10-30 f/cc samples) after 1980, specifically in 1983-1985 and as high as 1-2 f/cc in 1986 (the last year of measurement there). It does not seem to be vermiculite from SC, as McDonald et al (1988) http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1009667/pdf/brjindmed00149-0054.pdf (pages 631-632) shows that even if SC vermiculite had higher fiver content before 1970, by mid-80s, the fiber content in SC vermiculite was rather low and it cannot explain measurements for Track Unload for mid-80s
Thanks,
Leonid